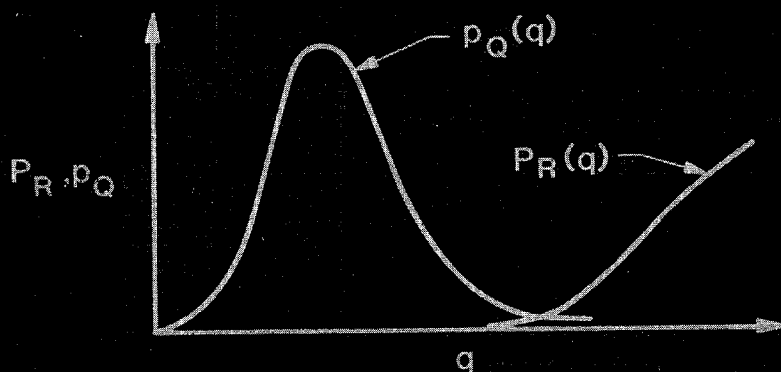


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$$\begin{aligned}\text{Prob(failure)} &= \int_0^{\infty} \text{Prob}(R < q) \text{Prob}(q < Q < q + dq) dq \\ &= \int_0^{\infty} P_R(q) p_Q(q) dq\end{aligned}$$

$P_R(q)$ = cumul. distr. funct. of resistance R

$p_Q(q)$ = prob. density funct. of load Q